IN THE CLAIMS

After the heading, please add:

We claim:

Please Cancel claims 1-19 and add the following new claims:

20. (new) A hydraulic actuating device for an automotive friction clutch comprising:

a master cylinder having a master piston, which can be impinged upon with a master force (F_G) via an actuating mechanism and can be displaced by a master travel (s_G) as master variables, and

a slave cylinder with a slave piston which is hydraulically connected in series to the master piston via a liquid column, which is functionally linked with a clutch-release member of the automotive friction clutch,

wherein there is provided an adjusting unit and a control unit,

said adjusting unit comprising an adjusting piston hydraulically connected with the master piston by one out of being connected in series and parallel thereto, which can be impinged upon with a force and displaced via a transmission that is driven by an electric motor,

wherein said control unit can control the electric motor subject to one of the master variables (F_G, s_G) and a variable (p_G) substantially proportional thereto, in order

in the case of the connection in series of the master piston and the adjusting piston specifically to increase the force acting on the liquid column by impinging the adjusting piston

with a force, and

in the case of the parallel connection of the master piston and the adjusting piston specifically to increase the volume of the liquid column by displacement of the adjusting piston.

21. (new) An actuating device according to claim 20, wherein, in order to detect the master variable (F_{Gist}, s_{Gist}) and the variable substantially proportional thereto (p_{Gist}), a first sensor device is provided with a signal connection to the control unit .

22. (new) An actuating device according to claim 21, wherein, in order to detect a variable different from the variable (F_{Gist}, s_{Gist}, p_{Gist}) detected by the first sensor device, a second sensor device is provided which has a signal connection to the control unit.

23. (new) An actuating device according to claim 20, wherein the master cylinder is hydraulically connected to the slave cylinder by a first pressure line, in which the liquid column between the master piston and the slave piston is displaceable, wherein, for parallel connection of the master piston and the adjusting piston, the adjusting unit is hydraulically connected via a second pressure line to the first pressure line so that by the displacement of the adjusting piston via the transmission driven by the electric motor, the volume of the liquid column between the master piston and the slave piston may be specifically increased.

24. (new) An actuating device according to claim 23, wherein the first sensor device can detect the master travel (s_{Gist}) as a reference value, while a second sensor device

can detect one of an adjusting travel (s_{Sist}) of the adjusting piston and a slave travel (s_{Nist}) of the slave piston as a control variable, wherein subject to the master travel (s_{Gist}) detected, a desired value for the adjusting travel (s_{Ssoll}) of the adjusting piston or the slave travel (s_{Nsoll}) of the slave piston can be determined in the control unit and wherein the determined adjusting travel (s_{Ssoll}) and slave travel (s_{Nsoll}), respectively, can be adjusted via the electric motor of the adjusting unit, which is controlled by the control unit.

25. (new) An actuating device according to claim 24, wherein the control unit comprises a computation element by means of which the desired value for the adjusting travel (s_{Ssoll}) and the slave travel (s_{Nsoll}), respectively, can be determined according to the following relationship:

$$s_{Ssoll} = k_u * s_{Gist} \text{ or } s_{Nsoll} = k_u * s_{Gist}$$

where s_{Gist} is the master travel of the master piston detected by the first sensor device and

k_u is a transfer factor stored in a storage element of the control unit.

26. (new) An actuating device according to claim 25, wherein the transfer factor (k_u) is constant.

27. (new) An actuating device according to claim 20, wherein the adjusting piston is arranged for the connection in series of the master piston and the adjusting piston between the master piston and the slave piston, wherein the adjusting piston divides the liquid

column between the master piston and the slave piston into a master section between the master piston and the adjusting piston and a slave section between the adjusting piston and the slave piston and wherein the force acting on the slave section of the liquid column can be specifically increased by impinging a force upon the adjusting piston via the transmission driven by the electric motor.

28. (new) An actuating device according to claim 27, wherein the second sensor device can detect a slave pressure (p_{Nist}) in the slave section of the liquid column as a reference value, while the first sensor device can detect a master pressure (p_{Gist}) in the master section of the liquid column and the master force (F_{Gist}), respectively, as a control variable, wherein, subject to the slave pressure (p_{Nist}) detected, a desired value for the master pressure (p_{Gsoll}) and the master force (F_{Gsoll}), respectively, can be determined in the control unit and wherein the determined master pressure (p_{Gsoll}) and the determined master force (F_{Gsoll}), respectively, can be adjusted via the electric motor of the adjusting unit, which is controlled by the control unit .

29. (new) An actuating device according to claim 28, wherein the control unit has a storage element and wherein the control unit comprises computation element by means of which the desired value for the master pressure (p_{Gsoll}) and the master force (F_{Gsoll}), respectively, can be determined according to the following relationship:

$$p_{Gsoll} = 1/k_V * p_{Nist} \text{ or } F_{Gsoll} = A_G/k_V * p_{Nist}$$

where p_{Nist}: is the slave pressure in the slave section of the liquid column detected by the second sensor device,

k_V: is an amplification factor stored in the storage element of the control unit and

A_G: is the hydraulic effective area of the master piston.

30. (new) An actuating device according to claim 29, wherein the control unit has a correction element by means of which the amplification factor (k_V) may be corrected in accordance with the following relations subject to the clutch wear:

$$k_V = k_{V0} * (p_{Nmax0} + \Delta p_{Nmax}) / p_{Nmax0}$$

wherein

$$\Delta p_{Nmax} = p_{Nmaxist} - p_{Nmax0}$$

where k_{V0} is a fixed amplification factor stored in the storage element of the control unit for an non-worn clutch,

p_{Nmax0} is a fixed value stored in the storage element of the control unit for a maximum slave pressure in the slave section of the liquid column with a non-worn clutch and

$p_{Nmaxist}$ is the maximum slave pressure detected in the slave section of the liquid column by the second sensor device.

31. (new) An actuating device according to claim 27, wherein the second sensor device can detect a slave travel (s_{Nist}) of the slave piston, an adjusting travel (s_{Sist}) of the adjusting piston and the master travel (s_{Gist}) of the master piston as a reference value, respectively, while the first sensor device can detect a master pressure (p_{Gist}) in the master section of the liquid column or the master force (F_{Gist}) as a control variable, wherein, subject to the detected slave travel (s_{Nist}), adjusting travel (s_{Sist}) or master travel (s_{Gist}), a desired value for the master pressure (p_{Gsoll}) and the master force (F_{Gsoll}), respectively, can be determined in the control unit and wherein the determined master pressure (p_{Gsoll}) and the determined master force (F_{Gsoll}), respectively, can be adjusted via the electric motor of the adjusting unit, which is controlled by the control unit.

32. (new) An actuating device according to claim 20, wherein the master piston is arranged for the connection in series of the master piston and the adjusting piston between the adjusting piston and the slave piston, wherein the master piston divides the liquid column between the adjusting piston and the slave piston into a servo section between the adjusting piston and master piston and a pressure section between the master piston and slave piston and wherein the force acting on the pressure section of the liquid column may be specifically increased by impinging force upon the adjusting piston via the transmission driven by the electric motor.

33. (new) An actuating device according to claim 32, wherein the second sensor device can detect a slave travel (s_{Nist}) of the slave piston, the master travel (s_{Gist}) of the master piston and an adjusting travel (s_{Sist}) of the adjusting piston, respectively, as a reference value,

while the first sensor device can detect the master force (F_{Gist}) as a control variable, wherein, subject to the detected slave travel (s_{Nist}), master travel (s_{Gist}) and adjusting travel (s_{Sist}), respectively, a desired value for the master force (F_{Gsoll}) can be determined in the control unit and wherein the master force (F_{Gsoll}) determined may be adjusted via the electric motor of the adjusting unit, which is controlled by the control unit.

34. (new) An actuating device according to claim 31, wherein the control unit comprises a storage element in which a desired curve ($p_{Gsoll} = f(s_{Sist})$; $F_{Gsoll} = f(s_{Gist})$) for the control variable (p_G, F_G) over the reference value (s_N, s_S, s_G) is stored, from which an assigned desired value for the control variable (p_{Gsoll}, F_{Gsoll}) can be determined for each actual value for the reference value (s_{Nist}, s_{Sist}, s_{Gist}) detected by the second sensor device.

35. (new) An actuating device according to claim 33, wherein the control unit comprises a storage element in which a desired curve ($p_{Gsoll} = f(s_{Sist})$; $F_{Gsoll} = f(s_{Gist})$) for the control variable (p_G, F_G) over the reference value (s_N, s_S, s_G) is stored, from which an assigned desired value for the control variable (p_{Gsoll}, F_{Gsoll}) can be determined for each actual value for the reference value (s_{Nist}, s_{Sist}, s_{Gist}) detected by the second sensor device.

36. (new) An actuating device according to claim 20, wherein the master cylinder has a pressure chamber and wherein the master piston is pretensioned in a basic position by a return spring, in which position the pressure chamber of the master cylinder is hydraulically connected to a reservoir.

37. (new) An actuating device according to claim 36, wherein the adjusting unit has a pressure chamber and wherein, in the case of the connection in series of the master piston and the adjusting piston, the adjusting piston is also pretensioned in a basic position by a pretensioning spring in which position the pressure chamber of the adjusting unit is hydraulically connected to a reservoir.

38. (new) An actuating device according to claim 20, wherein the transmission of the adjusting unit is a spindle drive.

39. (new) An actuating device according to claim 20, wherein the electric motor of the adjusting unit is a brushless DC motor.